

Hydric Soils

Kandiyohi County, Minnesota

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
27B:					
Dickinson fine sandy loam, 1 to 6 percent slopes	Dickinson	90	Outwash plains	No	---
	Hanska	5	Drainageways	Yes	2B3
	Lowlein	5	Moraines	No	---
35:					
Blue Earth mucky silt loam	Blue Earth	85	Moraines, Relict lakebeds	Yes	2B3, 3
	Regal	10	Rims	Yes	2B3
	Hawick	5	Outwash plains	No	---
39:					
Wadena loam	Wadena	90	Outwash plains	No	---
	Biscay	10	Depressions	Yes	2B3, 3
41A:					
Estherville coarse sandy loam, 0 to 3 percent slopes	Estherville	90	Outwash plains	No	---
	Biscay	5	Drainageways	Yes	2B3
	Linder	5	Outwash plains	No	---
84:					
Brownton silty clay loam	Brownton	90	Moraines, Rims	Yes	2B3
	Nicollet	5	Moraines	No	---
	Okoboji	5	Depressions	Yes	2B3, 3
94:					
Terril loam	Terril	90	Hills, Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
106B:					
Lester loam, 2 to 8 percent slopes	Lester	90	Hills, Moraines	No	---
	Swanlake	5	Moraines	No	---
	Webster	5	Drainageways	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
110: Marna silty clay	Marna	90	Flats, Moraines	Yes	2B3
	Okoboji	10	Depressions	Yes	2B3, 3
112: Harps clay loam	Harps	90	Depressions, Moraines, Rims	Yes	2B3
	Glencoe	4	Depressions	Yes	2B3, 3
	Okoboji	3	Depressions	Yes	2B3, 3
	Seaforth	3	Moraines	No	---
113: Webster silty clay loam	Webster	90	Flats, Moraines	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
	Okoboji	5	Depressions	Yes	2B3, 3
114: Glencoe clay loam	Glencoe	85	Depressions, Moraines	Yes	2B3, 3
	Canisteo	5	Rims	Yes	2B3
	Harps	5	Rims	Yes	2B3
	Palms	5	Depressions	Yes	1, 3
130A: Nicollet silty clay loam, 0 to 2 percent slopes	Nicollet	85	Moraines, Rises	No	---
	Webster	10	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
130B: Nicollet clay loam, 2 to 5 percent slopes	Nicollet	85	Hills, Moraines	No	---
	Webster	10	Drainageways	Yes	2B3
	Swanlake	5	Moraines	No	---

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134:					
Okoboji silty clay loam	Okoboji	85	Depressions, Moraines	Yes	2B3, 3
	Canisteo	5	Rims	Yes	2B3
	Harps	5	Rims	Yes	2B3
	Palms	5	Depressions	Yes	1, 3
140:					
Spicer silty clay loam	Spicer	90	Flats, Lake plains	Yes	2B3
	Okoboji	10	Depressions	Yes	2B3, 3
230A:					
Guckeen clay loam, 0 to 2 percent slopes	Guckeen	90	Moraines, Rises	No	---
	Okoboji	10	Depressions	Yes	2B3, 3
230B:					
Guckeen clay loam, 2 to 6 percent slopes	Guckeen	90	Hills, Moraines	No	---
	Okoboji	10	Depressions	Yes	2B3, 3
238B:					
Kilkenny clay loam, 2 to 6 percent slopes	Kilkenny	90	Hills, Moraines	No	---
	Marna	5	Drainageways	Yes	2B3
	Sunburg	5	Moraines	No	---
238C:					
Kilkenny clay loam, 6 to 12 percent slopes	Kilkenny	90	Hills, Moraines	No	---
	Marna	5	Drainageways	Yes	2B3
	Sunburg	5	Moraines	No	---
336:					
Delft loam	Delft	90	Drainageways, Moraines	Yes	2B3
	Glencoe	10	Depressions	Yes	2B3, 3

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392:					
Biscay loam	Biscay	90	Flats, Outwash plains	Yes	2B3
	Biscay	5	Depressions	Yes	2B3, 3
	Osakis	5	Outwash plains	No	---
399:					
Biscay loam, depressional	Biscay, depressional	90	Depressions, Outwash plains	Yes	2B3, 3
	Palms	10	Depressions	Yes	1, 3
413:					
Osakis sandy loam	Osakis	90	Flats, Outwash plains	No	---
	Biscay	10	Depressions	Yes	2B3, 3
423:					
Seaforth loam	Seaforth	85	Moraines, Rises	No	---
	Canisteo	10	Rims	Yes	2B3
	Ves	5	Moraines	No	---
444:					
Canisteo silty clay loam	Canisteo	90	Moraines, Rims	Yes	2B3
	Okoboiji	5	Depressions	Yes	2B3, 3
	Seaforth	5	Moraines	No	---
446A:					
Normania loam, 0 to 2 percent slopes	Normania	90	Hills, Moraines	No	---
	Webster	4	Drainageways	Yes	2B3
	Glencoe	3	Depressions	Yes	2B3, 3
	Marna	3	Drainageways	Yes	2B3

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446B:					
Normania loam, 2 to 5 percent slopes	Normania	90	Hills, Moraines	No	---
	Webster	4	Drainageways	Yes	2B3
	Okoboji	3	Depressions	Yes	2B3, 3
	Swanlake	3	Moraines	No	---
447:					
Harpster silty clay loam	Harpster	90	Depressions, Moraines, Rims	Yes	2B3
	Okoboji	10	Depressions	Yes	2B3, 3
462E:					
Sunburg fine sandy loam, 18 to 25 percent slopes	Sunburg	85	Hills, Moraines	No	---
	Terril	10	Moraines	No	---
	Hawick	5	Moraines	No	---
523:					
Houghton muck	Houghton	85	Depressions, Moraines	Yes	1, 3
	Palms	15	Depressions	Yes	1, 3
525:					
Muskego muck	Muskego	85	Depressions, Moraines	Yes	1, 3
	Palms	15	Depressions	Yes	1, 3
539:					
Palms muck	Palms	85	Depressions, Moraines	Yes	1, 3
	Glencoe	10	Depressions	Yes	2B3, 3
	Okoboji	5	Depressions	Yes	2B3, 3
548:					
Palms muck, sandy substratum	Palms, sandy substratum	85	Depressions, Outwash plains	Yes	1, 3
	Dassel	15	Depressions	Yes	2B3, 3

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559: Lena muck	Lena	85	Depressions, Moraines	Yes	1, 3
	Regal	10	Rims	Yes	2B3
	Hawick	5	Outwash plains	No	---
566: Regal loam	Regal	90	Flats, Outwash plains	Yes	2B3
	Biscay	5	Depressions	Yes	2B3, 3
	Osakis	5	Outwash plains	No	---
611D: Hawick gravelly loamy coarse sand, 12 to 20 percent slopes	Hawick	90	Hills, Outwash plains	No	---
	Sunburg	5	Moraines	No	---
	Wadena	5	Outwash plains	No	---
611F: Hawick gravelly loamy coarse sand, 20 to 35 percent slopes	Hawick	90	Hills, Outwash plains	No	---
	Sunburg	5	Moraines	No	---
	Wadena	5	Outwash plains	No	---
613: Grovecity loam	Grovecity	90	Moraines, Rises	No	---
	Sunburg	5	Moraines	No	---
	Webster	5	Drainageways	Yes	2B3
804B: Koronis-Hawick complex, 2 to 6 percent slopes	Koronis	65	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
	Terril	5	Moraines	No	---

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804C:					
Koronis-Hawick complex, 6 to 12 percent slopes	Koronis	65	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Sunburg	5	Moraines	No	---
	Terril	5	Moraines	No	---
804D:					
Koronis-Hawick complex, 12 to 20 percent slopes	Koronis	65	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Sunburg	10	Moraines	No	---
	Terril	5	Moraines	No	---
804E:					
Koronis-Hawick complex, 20 to 30 percent slopes	Koronis	65	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Sunburg	10	Moraines	No	---
	Terril	5	Moraines	No	---
805B:					
Wadenill-Sunburg loams, 2 to 6 percent slopes	Wadenill	60	Hills, Moraines	No	---
	Sunburg	25	Hills, Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
805C:					
Sunburg-Wadenill complex, 6 to 12 percent slopes	Sunburg	55	Hills, Moraines	No	---
	Wadenill	30	Hills, Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3

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805D:					
Sunburg-Wadenill complex, 12 to 18 percent slopes	Sunburg	70	Hills, Moraines	No	---
	Wadenill	20	Hills, Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
806C:					
Guckeen-Arkton complex, 4 to 12 percent slopes	Guckeen	60	Hills, Moraines	No	---
	Arkton	25	Hills, Moraines	No	---
	Marna	10	Drainageways	Yes	2B3
	Swanlake	5	Moraines	No	---
807B:					
Koronis-Sunburg complex, 2 to 6 percent slopes	Koronis	65	Hills, Moraines	No	---
	Sunburg	20	Hills, Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
807C:					
Koronis-Sunburg complex, 6 to 12 percent slopes	Koronis	60	Hills, Moraines	No	---
	Sunburg	30	Hills, Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
807D:					
Koronis-Sunburg complex, 12 to 20 percent slopes	Koronis	55	Hills, Moraines	No	---
	Sunburg	35	Hills, Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3

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809:					
Lowlein-Estherville sandy loams	Lowlein	65	Moraines	No	---
	Estherville	20	Moraines	No	---
	Coriff	10	Drainageways	Yes	2B3
	Sunburg	5	Moraines	No	---
810:					
Coriff-Fieldon complex	Coriff	45	Flats, Outwash plains	Yes	2B3
	Fieldon	45	Flats, Outwash plains	Yes	2B3
	Biscay	5	Depressions	Yes	2B3, 3
	Osakis	5	Outwash plains	No	---
817:					
Canisteo-Seaforth complex	Canisteo	55	Flats, Moraines	Yes	2B3
	Seaforth	30	Moraines, Rises	No	---
	Marna	10	Drainageways	Yes	2B3
	Okoboji	5	Depressions	Yes	2B3, 3
819B:					
Regal-Hawick complex, 0 to 4 percent slopes	Regal	55	Flats, Outwash plains	Yes	2B3
	Hawick	35	Hills, Outwash plains	No	---
	Biscay	4	Depressions	Yes	2B3, 3
	Osakis	3	Outwash plains	No	---
	Palms	3	Depressions	Yes	1, 3

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833B:					
Wadenill-Sunburg-Hawick complex, 2 to 6 percent slopes	Wadenill	40	Hills, Moraines	No	---
	Sunburg	30	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
833C:					
Sunburg-Wadenill-Hawick complex, 6 to 12 percent slopes	Sunburg	40	Hills, Moraines	No	---
	Wadenill	30	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
833D:					
Sunburg-Wadenill-Hawick complex, 12 to 18 percent slopes	Sunburg	45	Hills, Moraines	No	---
	Wadenill	25	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Delft	4	Drainageways	Yes	2B3
	Glencoe	3	Depressions	Yes	2B3, 3
	Terril	3	Moraines	No	---
833E:					
Sunburg-Wadenill-Hawick complex, 18 to 35 percent slopes	Sunburg	50	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Wadenill	20	Hills, Moraines	No	---
	Terril	10	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
842:					
Urban land-Udorthents complex	Urban land	50	---	Unranked	---
	Udorthents	40	Moraines, Outwash plains	No	---
	Glencoe	5	Depressions	Yes	2B3, 3
	Webster	5	Drainageways	Yes	2B3
875B:					
Estherville-Hawick complex, 2 to 6 percent slopes	Estherville	60	Hills, Outwash plains	No	---
	Hawick	25	Hills, Outwash plains	No	---
	Biscay	5	Drainageways	Yes	2B3
	Regal	5	Flats	Yes	2B3
	Wadena	5	Outwash plains	No	---
875C:					
Hawick-Estherville complex, 6 to 12 percent slopes	Hawick	65	Hills, Outwash plains	No	---
	Estherville	20	Hills, Outwash plains	No	---
	Wadena	10	Outwash plains	No	---
	Biscay	5	Drainageways	Yes	2B3
897B:					
Seaforth-Swanlake loams, 2 to 6 percent slopes	Seaforth	60	Hills, Moraines	No	---
	Swanlake	30	Hills, Moraines	No	---
	Glencoe	5	Depressions	Yes	2B3, 3
	Webster	5	Drainageways	Yes	2B3
899:					
Harps-Okoboji complex	Harps	60	Depressions, Moraines, Rims	Yes	2B3
	Okoboji	35	Depressions, Moraines	Yes	2B3, 3
	Seaforth	5	Moraines	No	---

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927:					
Harps-Seaforth-Okoboji complex	Harps	35	Depressions, Moraines, Rims	Yes	2B3
	Okoboji	25	Depressions, Moraines	Yes	2B3, 3
	Seaforth	25	Moraines, Rises	No	---
	Ves	15	Moraines	No	---
954B:					
Ves-Swanlake loams, 2 to 6 percent slopes	Ves	65	Hills, Moraines	No	---
	Swanlake	25	Hills, Moraines	No	---
	Glencoe	5	Depressions	Yes	2B3, 3
	Webster	5	Drainageways	Yes	2B3
954C:					
Swanlake-Ves loams, 6 to 12 percent slopes	Swanlake	50	Hills, Moraines	No	---
	Ves	40	Hills, Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Hawick	5	Moraines	No	---
954D:					
Swanlake-Ves loams, 12 to 18 percent slopes	Swanlake	60	Hills, Moraines	No	---
	Ves	30	Hills, Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Hawick	5	Moraines	No	---
981:					
Canisteo-Harps loams	Canisteo	45	Depressions, Flats, Moraines, Rims	Yes	2B3
	Harps	40	Moraines, Rims	Yes	2B3
	Glencoe	10	Depressions	Yes	2B3, 3
	Okoboji	5	Depressions	Yes	2B3, 3

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999B: Ves-Swanlake-Hawick complex, 2 to 6 percent slopes	Ves	40	Hills, Moraines	No	---
	Swanlake	30	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Glencoe	4	Depressions	Yes	2B3, 3
	Terril	3	Moraines	No	---
	Webster	3	Drainageways	Yes	2B3
999C: Swanlake-Ves-Hawick complex, 6 to 12 percent slopes	Swanlake	40	Hills, Moraines	No	---
	Ves	25	Hills, Moraines	No	---
	Hawick	20	Hills, Moraines	No	---
	Glencoe	5	Depressions	Yes	2B3, 3
	Terril	5	Moraines	No	---
	Webster	5	Drainageways	Yes	2B3
1016: Udorthents, loamy	Udorthents, loamy	100	Hills, Moraines	No	---
1029: Pits, gravel	Pits, gravel	100	Outwash plains	Unranked	---
1055: Aquolls and Histosols, ponded	Aquolls, ponded	60	Depressions, Moraines	Yes	2B3, 3
	Histosols, ponded	40	Depressions, Moraines	Yes	1, 3
1065B: Aquolls and Histosols, sloping	Aquolls, sloping	50	Hills, Moraines	Yes	2B3
	Histosols, sloping	50	Hills, Moraines	Yes	1
1356: Water, miscellaneous	Water, miscellaneous	100	---		---

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1900: Okoboji-Canisteo silty clay loams, depressional	Okoboji, depressional	55	Depressions, Moraines	Yes	2B3, 3
	Canisteo, depressional	30	Depressions, Moraines	Yes	2B3, 3
	Harps	5	Rims	Yes	2B3
	Harpster	5	Rims	Yes	2B3
	Palms	5	Depressions	Yes	1, 3
1908: Biscay-Palms complex	Biscay	50	Depressions, Outwash plains	Yes	2B3, 3
	Palms	40	Depressions, Outwash plains	Yes	1, 3, 4
	Regal	4	Rims	Yes	2B3
	Houghton	3	Depressions	Yes	1, 3
	Osakis	3	Outwash plains	No	---
L13A: Klossner muck, depressional, 0 to 1 percent slopes	Klossner, drained	80	Depressions, Moraines	Yes	1
	Mineral soil, drained	15	Depressions, Moraines	Yes	2B3
	Houghton, drained	5	Depressions, Moraines	Yes	1
L33A: Kandiyohi clay, 0 to 2 percent slopes	Kandiyohi	80	Flats, Moraines, Rises	No	---
	Cosmos	10	Flats, Moraines, Swales	Yes	2B3
	Arkton	5	Hills, Moraines	No	---
	Lura, firm substratum, depressional	5	Depressions, Moraines	Yes	2B3, 3

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L33B:					
Kandiyohi clay, 2 to 5 percent slopes	Kandiyohi	80	Hills, Moraines	No	---
	Strout	10	Hills, Moraines	No	---
	Arkton	5	Hills, Moraines	No	---
	Cosmos	5	Flats, Moraines, Swales	Yes	2B3
L34A:					
Cosmos silty clay, 0 to 2 percent slopes	Cosmos	85	Flats, Moraines, Swales	Yes	2B3
	Corvuso	5	Depressions, Flats, Moraines, Rims	Yes	2B3
	Kandiyohi	5	Flats, Moraines, Rises	No	---
	Lura, firm substratum, depressional	5	Depressions, Moraines	Yes	2B3, 3
L163A:					
Okoboji silty clay loam, depressional, 0 to 1 percent slopes	Okoboji, depressional	92	Lake plains, Moraines	Yes	2B3
	Canisteo	2	Depressions, Flats, Moraines, Rims	Yes	2B3
	Harpster	2	Lake plains	Yes	2B3
	Knoke, depressional	2	Lake plains	Yes	2B3
	Prinsburg	2	Depressions, Flats, Lake plains, Moraines, Rims	Yes	2B3
L164A:					
Lura silty clay, depressional, firm substratum, 0 to 1 percent slopes	Lura, firm substratum, depressional	90	Depressions, Moraines	Yes	2B3, 3
	Corvuso	5	Depressions, Flats, Moraines, Rims	Yes	2B3
	Cosmos	5	Flats, Moraines, Swales	Yes	2B3

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L166C2:					
Newlondon-Strout complex, 6 to 12 percent slopes, moderately eroded	Newlondon, moderately eroded	45	Hills, Moraines	No	---
	Strout, moderately eroded	45	Hills, Moraines	No	---
	Danielson, overwash	10	Drainageways, Moraines, Swales	No	---
L166D2:					
Newlondon-Strout complex, 12 to 18 percent slopes, moderately eroded	Newlondon, moderately eroded	65	Hills, Moraines	No	---
	Strout, moderately eroded	25	Hills, Moraines	No	---
	Danielson, overwash	10	Drainageways, Moraines, Swales	No	---
L184A:					
Corvuso silty clay loam, 0 to 2 percent slopes	Corvuso	85	Depressions, Flats, Moraines, Rims	Yes	2B3
	Lura, firm substratum, depressional	10	Depressions, Moraines	Yes	2B3, 3
	Cosmos	5	Flats, Moraines, Swales	Yes	2B3
L185B:					
Strout-Arkton complex, 2 to 6 percent slopes	Strout	70	Hills, Moraines	No	---
	Arkton	20	Hills, Moraines	No	---
	Cosmos	5	Flats, Moraines, Swales	Yes	2B3
	Kandiyohi	5	Hills, Moraines	No	---
L186A:					
Danielson-Danielson, overwash complex, 1 to 4 percent slopes	Danielson	70	Drainageways, Moraines, Swales	Yes	2B3
	Danielson, overwash	20	Drainageways, Moraines, Swales	No	---
	Kandiyohi	5	Flats, Moraines, Rises	No	---
	Lura, firm substratum, depressional	5	Depressions, Moraines	Yes	2B3

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L187A:					
Klossner and Lura soils, ponded, firm substratum, 0 to 1 percent slopes	Klossner, firm substratum, ponded	45	Depressions, Moraines	Yes	1, 3
	Lura, firm substratum, ponded	45	Depressions, Moraines	Yes	2B3
	Corvuso	5	Depressions, Flats, Moraines, Rims	Yes	2B3
	Houghton, firm substratum, ponded	5	Depressions, Moraines	Yes	1, 3
L191A:					
Blue Earth, Houghton, and Klossner soils, ponded, firm substratum, 0 to 1 percent slopes	Blue Earth, firm substratum, ponded	30	Depressions, Moraines	Yes	2B3, 3
	Houghton, firm substratum, ponded	30	Depressions, Moraines	Yes	1, 3
	Klossner, firm substratum, ponded	30	Depressions, Moraines	Yes	1, 3
	Corvuso	5	Depressions, Flats, Moraines, Rims	Yes	2B3
	Lura, firm substratum, ponded	5	Depressions, Moraines	Yes	2B3, 3
L192A:					
Okoboji mucky silty clay loam, depressional, firm substratum, 0 to 1 percent slopes	Okoboji, depressional, firm substratum	80	Depressions, Moraines	Yes	2B3, 3
	Canisteo, depressional, firm substratum	15	Depressions, Moraines	Yes	2B3, 3
	Corvuso	5	Depressions, Flats, Moraines, Rims	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L195A: Houghton-Klossner complex, depressional, firm substratum, complex, 0 to 1 percent slopes	Houghton, drained, firm substratum	70	Depressions, Moraines	Yes	1
	Klossner, drained, firm substratum	25	Depressions, Moraines	Yes	1
	Corvuso	3	Depressions, Flats, Moraines, Rims	Yes	2B3
	Lura, firm substratum, drained	2	Depressions, Moraines	Yes	2B3
L199A: Muskego-Klossner, depressional, firm substratum complex, 0 to 1 percent slopes	Muskego, drained, firm substratum	45	Depressions, Moraines	Yes	1
	Klossner, drained, firm substratum	40	Depressions, Moraines	Yes	1
	Corvuso	10	Depressions, Flats, Moraines, Rims	Yes	2B3
	Lura, drained, firm substratum	5	Depressions, Moraines	Yes	2B3
L200A: Klossner muck, depressional, firm substratum, 0 to 1 percent slopes	Klossner, drained, firm substratum	80	Depressions, Moraines	Yes	1, 3
	Lura, drained, firm substratum	15	Depressions, Moraines	Yes	2B3, 3
	Corvuso	5	Depressions, Flats, Moraines, Rims	Yes	2B3
L201A: Normania loam, 0 to 3 percent slopes	Normania	85	Flats, Moraines, Rises	No	---
	Amiret	7	Hills, Moraines	No	---
	Seaforth	3	Flats, Moraines, Rises	No	---
	Webster	3	Flats, Moraines, Swales	Yes	2B3
	Canisteo	2	Depressions, Flats, Moraines, Rims	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L307B:					
Koronis loam, 2 to 6 percent slopes	Koronis	80	Moraines	No	---
	Marcellon	10	Moraines	No	---
	Barry	5	Moraines	Yes	2B3
	Sunburg	5	Moraines	No	---
L307C2:					
Koronis loam, 6 to 12 percent slopes, moderately eroded	Koronis, moderately eroded	75	Moraines	No	---
	Sunburg	10	Moraines	No	---
	Forestcity	5	Moraines	Yes	2B3
	Marcellon	5	Moraines	No	---
	Terril	5	Moraines	No	---
L307E:					
Koronis loam, 18 to 40 percent slopes	Koronis	75	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Sunburg	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---
L315C2:					
Sunburg-Wadenill-Hawick complex, 6 to 12 percent slopes, moderately eroded	Sunburg, moderately eroded	35	Moraines	No	---
	Wadenill, moderately eroded	30	Moraines	No	---
	Hawick	20	Moraines	No	---
	Arctander	10	Moraines	Yes	2B3
	Terril	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L315D2:					
Sunburg-Wadenill-Hawick complex, 12 to 18 percent slopes, moderately eroded	Sunburg, moderately eroded	35	Moraines	No	---
	Wadenill, moderately eroded	30	Moraines	No	---
	Hawick	20	Moraines	No	---
	Arctander, overwash	10	Moraines	No	---
	Ridgeton	5	Moraines	No	---
L315E:					
Sunburg-Wadenill-Hawick complex, 18 to 35 percent slopes	Sunburg	50	Moraines	No	---
	Wadenill	20	Moraines	No	---
	Hawick	15	Moraines	No	---
	Arctander	10	Moraines	Yes	2B3
	Ridgeton	5	Moraines	No	---
L316B:					
Haplosaprists, calcareous-Aquolls complex, 1 to 6 percent slopes	Haplosaprists, calcareous	70	Moraines	Yes	1
	Aquolls	20	Moraines	Yes	2B3
	Arctander	5	Moraines	Yes	2B3
	Swedegrove	3	Moraines	Yes	2B3
	Crowriver	2	Moraines	Yes	2B3
L317A:					
Barry loam, 0 to 2 percent slopes	Barry	85	Moraines	Yes	2B3
	Marcellon	10	Moraines	No	---
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L318A:					
Lundlake silty clay loam, 0 to 1 percent slopes	Lundlake	85	Depressions, Moraines	Yes	2B3, 3
	Histic Endoaquolls	5	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	5	Moraines	Yes	2B3
	Uniongrove	5	Moraines	Yes	2B3
L321A:					
Swedegrove loam, 0 to 2 percent slopes	Swedegrove	85	Moraines	Yes	2B3
	Crowriver	5	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
	Seaforth, lundlake catena	5	Moraines	No	---
L322A:					
Uniongrove loam, 0 to 2 percent slopes	Uniongrove	80	Moraines	Yes	2B3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	10	Moraines	Yes	2B3
L323A:					
Crowriver loam, 0 to 2 percent slopes	Crowriver	90	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	5	Moraines	Yes	2B3
L324A:					
Forestcity, overwash-Forestcity complex, 1 to 4 percent slopes	Forestcity, overwash	45	Moraines	No	---
	Forestcity	40	Moraines	Yes	2B3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3
	Marcellon	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L325A:					
Crowriver-Lundlake complex, 0 to 2 percent slopes	Crowriver	45	Moraines	Yes	2B3
	Lundlake	35	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	15	Moraines	Yes	2B3
	Seaforth, lundlake catena	5	Moraines	No	---
L330A:					
Muskego, Blue Earth and Houghton soils, lundlake catena, 0 to 1 percent slopes, ponded	Blue Earth, ponded	30	Depressions, Moraines	Yes	2B3, 3
	Houghton, ponded	30	Depressions, Moraines	Yes	1, 3
	Muskego, ponded	30	Depressions, Moraines	Yes	1, 3
	Klossner, lundlake catena, ponded	10	Depressions, Moraines	Yes	1, 3
L331A:					
Klossner muck, lundlake catena, 0 to 1 percent slopes	Klossner, drained, lundlake catena	80	Depressions, Moraines	Yes	1, 3
	Lundlake	15	Depressions, Moraines	Yes	2B3, 3
	Houghton, drained	5	Depressions, Moraines	Yes	1, 3
L332A:					
Blue Earth mucky silt loam, lundlake catena, 0 to 1 percent slopes	Blue Earth, lundlake catena	90	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	10	Moraines	Yes	2B3
L333A:					
Blue Earth soils, lundlake catena, 0 to 1 percent slopes	Blue Earth, lundlake catena, surface drained	70	Depressions, Moraines	Yes	2B3, 3
	Blue Earth, lundlake catena, drained	20	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	10	Moraines	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L334A:					
Houghton and Muskego soils, lundlake catena, 0 to 1 percent slopes	Houghton, surface drained	40	Depressions, Moraines	Yes	1, 3
	Muskego, surface drained	40	Depressions, Moraines	Yes	1, 3
	Klossner, drained lundlake catena	10	Depressions, Moraines	Yes	1, 3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3
L335A:					
Klossner soils, lundlake catena, 0 to 1 percent slopes	Klossner, surface drained, lundlake catena	65	Depressions, Moraines	Yes	1, 3
	Klossner, drained, lundlake catena	20	Depressions, Moraines	Yes	1, 3
	Lundlake	15	Depressions, Moraines	Yes	2B3, 3
L336A:					
Arctander, overwash-Arctander complex, 1 to 4 percent slopes	Arctander, overwash	45	Moraines	No	---
	Arctander	35	Moraines	Yes	2B3
	Arctander, frequently flooded	8	Moraines	Yes	2B3
	Terril	7	Moraines	No	---
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
L337B:					
Wadenill-Sunburg complex, 2 to 6 percent slopes	Wadenill	65	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Grovecity	10	Moraines	No	---
	Uniongrove	5	Moraines	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L340B:					
Wadenill-Sunburg-Hawick complex, 2 to 6 percent slopes	Wadenill	50	Moraines	No	---
	Sunburg	25	Moraines	No	---
	Hawick	15	Moraines	No	---
	Grovecity	5	Moraines	No	---
	Uniongrove	5	Moraines	Yes	2B3
L347A:					
Klossner and Lundlake soils, 0 to 1 percent slopes, ponded	Klossner, lundlake catena, ponded	50	Depressions, Moraines	Yes	1, 3
	Lundlake, ponded	45	Depressions, Moraines	Yes	2B3, 3
	Houghton, ponded	5	Depressions, Moraines	Yes	1, 3
L351A:					
Houghton muck, lundlake catena, 0 to 1 percent slopes	Houghton, drained	80	Depressions, Moraines	Yes	1, 3
	Klossner, drained, lundlake catena	10	Depressions, Moraines	Yes	1, 3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3
L352A:					
Muskego muck, lundlake catena, 0 to 1 percent slopes	Muskego, drained, lundlake catena	90	Depressions, Moraines	Yes	1, 3
	Blue Earth, drained, lundlake catena	10	Depressions, Moraines	Yes	2B3, 3
L354A:					
Grovecity loam, 1 to 3 percent slopes	Grovecity	75	Moraines	No	---
	Uniongrove	10	Moraines	Yes	2B3
	Wadenill	10	Moraines	No	---
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L355B:					
Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes	Koronis	50	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Hawick	15	Moraines	No	---
	Marcellon	10	Moraines	No	---
	Barry	5	Moraines	Yes	2B3
L355C2:					
Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, moderately eroded	Koronis, moderately eroded	45	Moraines	No	---
	Sunburg, moderately eroded	25	Moraines	No	---
	Hawick	15	Moraines	No	---
	Terril	10	Moraines	No	---
	Forestcity	5	Moraines	Yes	2B3
L355D2:					
Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, moderately eroded	Koronis, moderately eroded	40	Moraines	No	---
	Sunburg, moderately eroded	30	Moraines	No	---
	Hawick	15	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---
L355E:					
Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes	Koronis	50	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Hawick	15	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L356C2:					
Sunburg-Wadenill complex, 6 to 12 percent slopes, moderately eroded	Sunburg, moderately eroded	60	Moraines	No	---
	Wadenill, moderately eroded	30	Moraines	No	---
	Arctander	5	Moraines	Yes	2B3
	Terril	5	Moraines	No	---
L356D2:					
Sunburg-Wadenill complex, 12 to 18 percent slopes, moderately eroded	Sunburg, moderately eroded	70	Moraines	No	---
	Wadenill, moderately eroded	20	Moraines	No	---
	Arctander, overwash	5	Moraines	No	---
	Ridgeton	5	Moraines	No	---
L357B:					
Koronis-Sunburg complex, 2 to 6 percent slopes	Koronis	60	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Marcellon	10	Moraines	No	---
	Barry	5	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
L357C2:					
Koronis-Sunburg complex, 6 to 12 percent slopes, moderately eroded	Koronis, moderately eroded	60	Moraines	No	---
	Sunburg, moderately eroded	20	Moraines	No	---
	Forestcity	10	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
	Terril	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L357D2: Koronis-Sunburg complex, 12 to 18 percent slopes, moderately eroded	Koronis, moderately eroded	65	Moraines	No	---
	Sunburg, moderately eroded	20	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---
W: Water	Water	100	---		---

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

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